New 5000 Documents

6 February 2001

Defense Systems Management College
Acquisition Policy Department

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DoD 5000 Series

From This
(March 1996)

- **DoD Directive 5000.1**
- **DoD Regulation 5000.2-R**

To This
(October 2000)

- **DoD Directive 5000.1 (chg 1 pending)**
- **DoD Instruction 5000.2 (chg 1 issued 4 Jan 01)**
- **Memo, Mandatory Procedures for MDAPs and MAIS Acquisition Programs (Interim 5000.2-R issued 4 Jan 01)**

- **1996 DoD 5000.2-R cancelled**
- ***New DoD 5000.2-R pending***

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Status of DoD 5000.2-R

- **Revision of DoD 5000.2-R lagging behind new DoDD 5000.1 and DoDI 5000.2**
- **Interim 5000.2-R guidance, 4 Jan 01, released as *Attachment 1* to *memo* from USD(AT&L), ASD(C³I) & DOT&E**
- **Applies to MDAPs and MAISs and specifically where stated, to less-than-major programs**
- **Interim 5000.2-R contains about 90% of what is expected to be in final DoD 5000.2-R - expected no earlier than Feb-Mar 2001**

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Problems With Old Policy

- **Only addressed systems acquisition - not total acquisition system**
- **Treated evolutionary approaches and innovations as "non-traditional" excursions**
- **Endorsed "tailoring" but provides no amplifying guidance to assist acquisition strategy development**
- **Provided no firm decision criteria**

<u>Our process and practices</u>:

- **Took too long and cost too much**
- **Were incompatible with modern technology cyc**

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The New 5000 Process

- ***Multiple process paths*** - not just one way of entering systems acquisition
- ***Evolutionary acquisition*** - based on *time-phased requirements* - preferred (but not only) approach
- **Minimum number of *mission-oriented Key Performance Parameters* to facilitate *cost-performance trades***
- **Achieve *proven technology* and a *validated ORD*** -- before beginning systems-level work at Milestone B
- **Complete *full systems* demonstration** -- before committing to low-rate production
- **Use *market research* and *commercial products*** -- to increase competition

Higher Performance, Lower Costs, More Rapid Deployment

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The New 5000 Process
Key Focus Areas

- **Deliver advanced technology to warfighters faster**
  - Rapid acquisition with demonstrated technology
  - Time-phased requirements and evolutionary development
  - Integrated test and evaluation
- **Reduce total ownership costs**
  - Cost as a requirement that drives design, procurement, and support
  - Increased competition

mproved performance (including quality) at lower cos

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The New 5000 Process
Key Focus Areas, continued...

- **More flexible process focused on interoperability, supportability, and affordability**
  - Integration of acquisition and logistics
  - Interoperability as a Key Performance Parameter
  - Improve software management
  - Emphasis on total system support and operational sustainment

mproved performance (including quality) at lower cos

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The New 5000 Process
What's New in DoDD 5000.1?

- **Achieving interoperability**
- **Rapid & effective transition from S&T to Products**
  - **Time-phased requirements & communications with users**
  - **Commercial products, services & technologies**
  - **Performance based acquisition**
- **Rapid & effective transition from acquisition to deployment & fielding**
  - **Evolutionary acquisition**
  - **Integrated test & evaluation**
  - **Competition**

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The New 5000 Process
What's New in DoDD 5000.1?
Continued...

- **Integrated & Effective Operational Support**
  - **Total systems approach**
  - **Logistics transformation**
- **Effective Management**
  - **Tailoring**
  - **Cost & affordability**
  - **Program stability**
  - **Simulation based acquisition**
  - **Streamlined organizations & a professional workforce**

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The New 5000 Process
What's New in DoDI 5000.2?

Three Major Activities; Four Phases; Eight Work Efforts	Part 4
Decision & Interim Progress	within Phases
Reviews Key capability enablers (Critical	4.6.2
Pgm Info, Info Superiority, &	4.6.2.3 &
Interoperability) Interoperability as Mandatory KPP	4.7.2.1.1.11 4.7.1.3
Procurement of Services to satisfy mission need. Technological Opportunity Activities	4.7.2.3
S&T Program Content	

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The New 5000 Process
What's New in DoDI 5000.2?
5000.2: Continued...

Use of ATDs, ACTDs & Experiments	4.7.2.3.3 prior to phase/work effort
Entrance Criteria	
Analysis of Multiple Concepts	4.7.2.4.1 & Encl 3, table 2
Evaluation Strategy for MNS	
Technology Transition Fund	4.7.2.4.2.1
Foreign Disclosure & Anti-Tampering Assessments	4.7.3.2.1.3 4.7.3.2.2.5
Clinger-Cohen Compliance	
Preference for Allied Systems	4.7.3.2.3.2.1
CIO Registration	4.7.3.1.3
AIS Specific Considerations	4.7.3.1.5
OIPT Leader Approval of TEMP	4.7.3.2.3.2 &
Proof of Software Systems	4.7.3.2.3

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What's New in DoDI 5000.2?
Continued...

Evolutionary Acquisition & Time-Phased Requirements	4.7.3.2.3.3
Evolutionary Sustainment	4.7.4.2
Follow-on Blocks for Evolutionary Acq	4.7.5
Pre-ACAT Technology Projects	4.8.1 & E2.16
Report of Change in ACAT Level	4.8.6
Written Charter for Program Managers	4.9.1
Restricts PEO "other responsibilities"	4.9.2
Mission-Critical & Mission-Essential Info Sys	E2.1.12 & E2.1.1
Application for Frequency Allocation	Encl 3, Table 1
Acquisition Strategy Elements: Make or Buy Analysis Core Logistics/Source of Repair Analysis Competition Analysis Partnering Analysis	

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Evolutionary Acquisition Strategy (Block Upgrades)

- **Block 1: Initial deployment of usable increment of capability.**
- **Block 2 & subsequent blocks: Two approaches -**

  1. ORD has firm requirement for each block. Each block is baselined, funded, developed, tested and produced using traditional methods.

  2. ORD defines block 1, but does not allocate to subsequent blocks remaining requirements to achieve full capability.

  - Sequential block upgrades to achieve full capability based on user experience with delivered system.

  - ORD updated lead-time away from each block, based on user understanding of delivered capability of

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Information For Milestones & Reviews

Information (DoDI 5000.2)	Milestone/Review A	DR	B	IPR	C	FRP
Acquisition Decision Memorandum	X	X	X	X	X	X
Acquisition Program Baseline		*Note 1*	X		X	X
Acquisition Strategy (14 elements)		*Note 1*	X		X	X
Affordability Assessment			X		X	
Analysis of Multiple Concepts	X					
Analysis of Alternatives			X		*Note 3*	
Application for Frequency Allocation			X		X	
Beyond LRIP Report *(note 2)*						X
C4 Integrated Support Plan		*Note 1*	X		X	
Clinger-Cohen Act Compliance *(all IT)*		*Note 1*	X		X	X
Compliance with Strategic Plan			X		X	
Component Cost Analysis *(MAIS; optional MDAP)*			X			X
Consideration of Technology Issues	X		X		X	
Cooperative Opportunities			X		X	X
Cost Analysis Requirements Description *(MDAPs)*			X		X	X
Economic Analysis *(MAIS)*	X	X	X	X	X	X
Exit Criteria			X		X	X
Independent Cost Estimate *(MDAPs; n/a AIS)*			X		X	
Independent Technology Assessment						

Notes: 1. At entry to CAD if CAD is program initiation. 2. OSD T&E Oversight programs. 3. If no

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Information For Milestone/Decision Reviews, continued

Information (DoDI 5000.2)	Milestone/Review A	DR	B	IPR	C	FRP
Interoperability Certification						X
IT Certification *(MAIS)*		X	X		X	X
Live Fire T&E Waiver *(covered systems)(note 2)*			X			
Live Fire T&E Report *(covered systems)(note 2)*						X
LRIP Quantities			X			
Manpower Estimate *(MDAPs)*			X			X
Market Research	X		X			
Mission Need Statement	X					
National Environmental Policy Act Schedule		*Note 1*	X		X	X
Operational Requirements Document			X		X	
OT&E Results			X		X	X
Post Deployment Performance Review						X
Program Protection Plan			X		X	
Registration of Msn Critical & Msn Essential Info Sys		*Note 1*	*Note 1*		*Note 1*	
			X		X	
System Threat Assessment *(n/a AIS)*		*Note 1*	X		X	X
Selected Acquisition Report *(MDAPs)*	*Note 3*		X		X	X
Test & Evaluation Master Plan						

Notes: 1. If program initiation. 2. OSD T&E Oversight programs. 3. Eval strategy for MNS due 180 days after MS A

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Acquisition Strategy Elements

Interim DoD 5000.2-R, 4 Jan 01

- **Requirements**
  - Approved Source Docs
  - Status of In-process Source Docs
- **Program Structure**
- **Acquisition Approach**
- **Risk**
- **Program Management**
  - Resources
    - →Advance Procurement
    - →PMO Staffing & Support
  - Info Sharing & DoD Oversight
  - IDE
  - Tech Reps at Contractor Facilities
  - Government Property In Possession of Contractors
  - Tailoring & Streamlining
    - →Requests for Relief or Exemption
    - →Applying Best Practices
  - Planning for Modeling & Simulation
  - Independent Expert Review of Software Intensive Programs
- **Design Considerations**
  - Open Systems
  - Interoperability
    - → IT Interoperability
    - → Other than IT Integration
  - IT Supportability
  - Protection of Critical Program Info & Anti-Tamper Provisions
- **Support Strategy**
  - Product Support
    - → Management Plan
    - → Integration
  - Source of Support
    - → Depot Maintenance
    - → Supply
    - → Contractor Log Support
  - Human Sys Integration
  - Environ Safety & Occupational Health
  - Demil & Disposal
  - Life Cycle Support Oversight
  - Post Deployment Evaluation

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Acquisition Strategy Elements

Interim DoD 5000.2-R, continued..

- **Business Strategy**
  - **Competition**
    - → **Fostering a Competitive Environment**
      - ◆ **Competition Advocates**
      - ◆ **Ensuring Future Competition**
    - → **Building Competition Into Strategies**
      - ◆ **Acquisition Phases**
      - ◆ **Evolutionary Acquisition**
      - ◆ **Industry Involvement**
    - → **Potential Obstacles**
      - ◆ **Exclusive Teaming**
      - ◆ **Sub-Tier Competition**
    - → **Potential Sources**
      - ◆ **Market Research**
      - ◆ **Commercial & NDI**
      - ◆ **Dual-Use Tech & Comm Plants**
      - ◆ **Industrial**
    - → **SBIR Technologies**
  - **International Cooperation**
    - → **Cooperative Strategy**
    - → **Interoperability**
    - → **Compliance**
    - → **Testing Required for Foreign Military Sales**
  - **Contract Approach**
    - → **Major Contracts Planned**
    - → **Contract Type**
    - → **Contract Incentives**
    - → **Performance Mgmt**
    - → **Integrated Baseline Reviews**
    - → **Special Terms & Conditions**
    - → **Warranties**
    - → **Component Breakout**
  - **Leasing**

From DoDI 5000.2, Encl 3, Table 1

- **Partnering Analysis**
- **Make or Buy Analysis**
- **Core Logistics Analysis/ Source of Supply Analysis**

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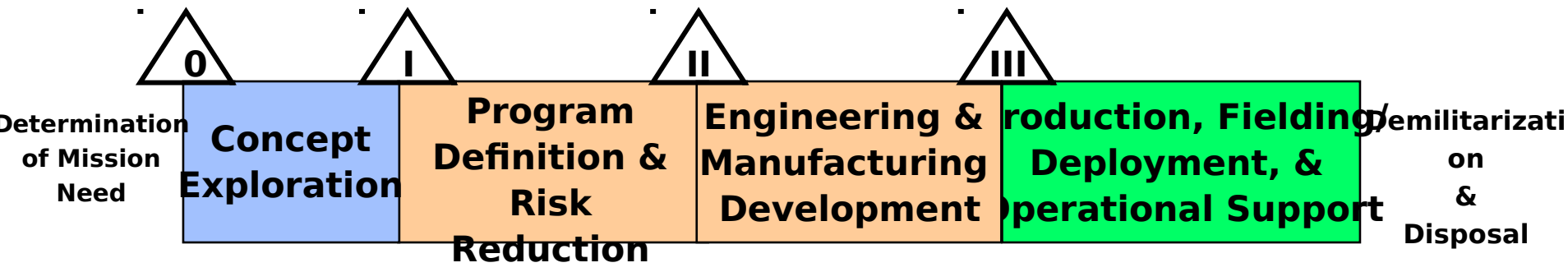
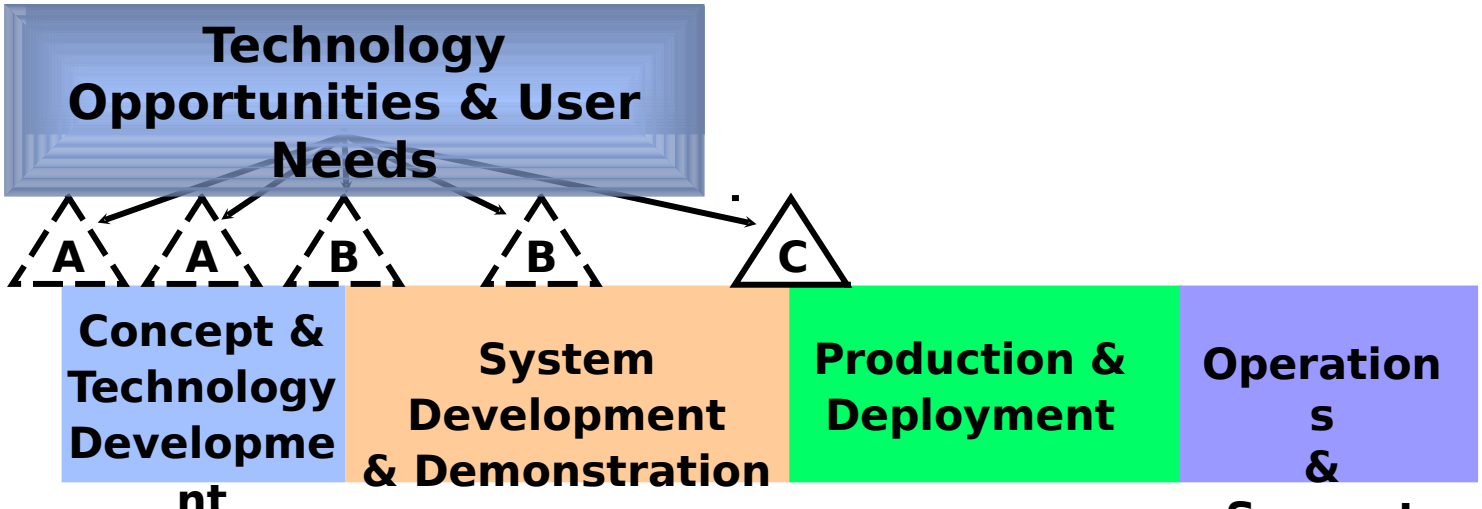
The 5000 Process

old and new

Old Process



New Process



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The New 5000 Process
Milestones, Phases & Work Efforts

OLD: "pipeline" approach: 4 Milestones; 4 Phases

- **Milestone 0, Approval to Conduct Concept Studies**
  - → Phase 0, Concept Exploration
- **Milestone I, Approval to Begin a New Acquisition Program**
  - → Phase I, Program Definition & Risk Reduction
- **Milestone II, Approval to Enter Engineering & Manufacturing Development**
  - → Phase II, Engineering & Manufacturing Development
- **Milestone III, Production or Fielding/Deployment Approval**
  - → Phase III, Production, Fielding/ Deployment, & Operational Support

NEW: "flexible entry" approach: 3 Milestones; 4 Phases; 8 work efforts

- **Milestone A, Decision to enter Concept & Technology Development Phase. May enter at:**
  - → Concept Exploration, or
  - → Component Advanced Development
- **Milestone B, Program Initiation, and Decision to enter System Development & Demonstration Phase. May enter at:**
  - → Systems Integration, or
  - → Systems Demonstration
- **Milestone C, Decision to enter the Production & Deployment Phase**
  - → LRIP (ACAT I/II), or production/ procurement (ACAT III)
  - → Production & Deployment
- **Operations & Support Phase**
  - → Sustainment
  - → Disposal

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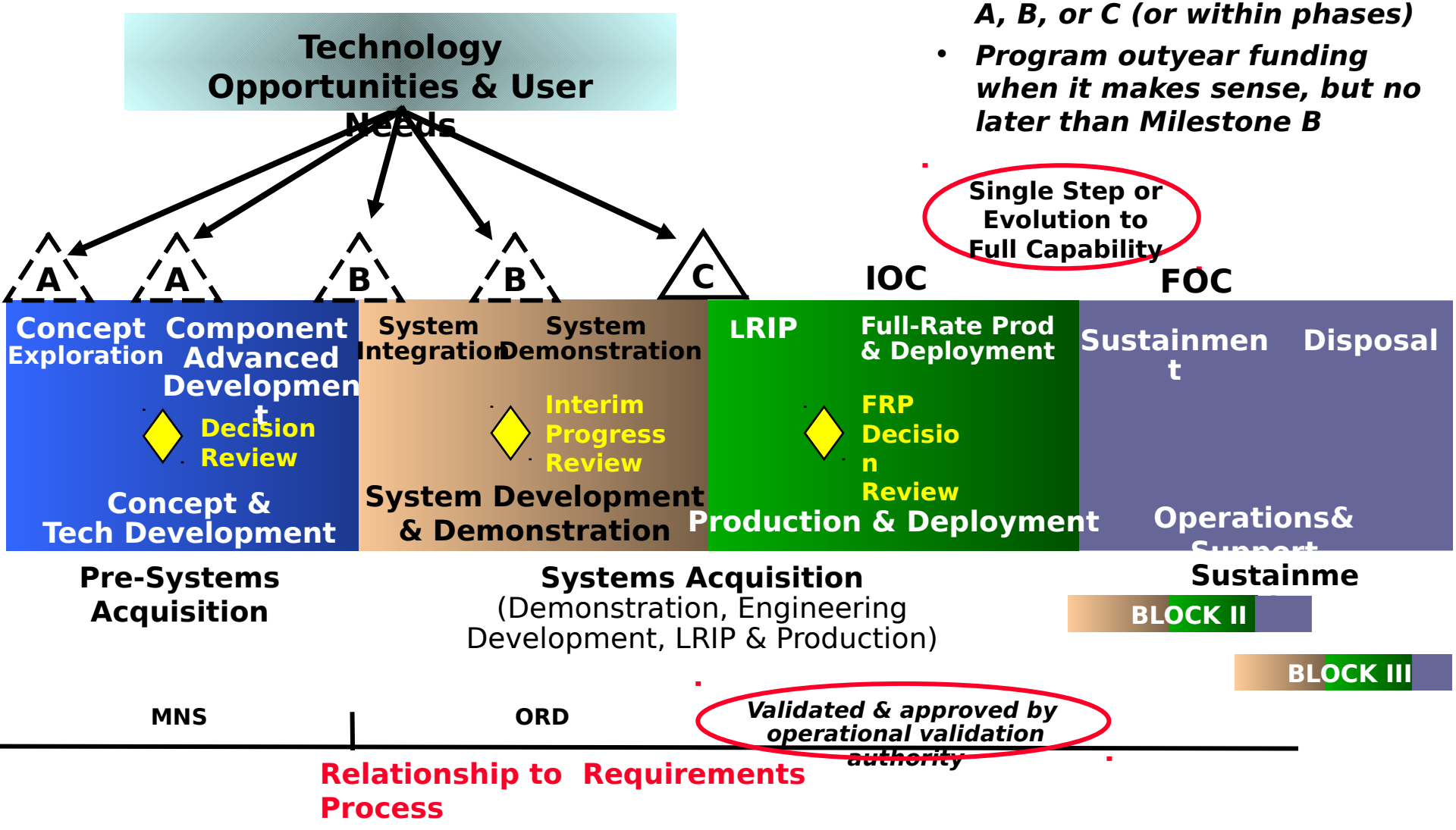
Defense Acquisition Management Framework

- ***Enter process at Milestones A, B, or C (or within phases)***
- ***Program outyear funding when it makes sense, but no later than Milestone B***



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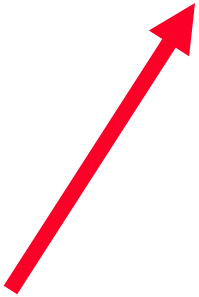
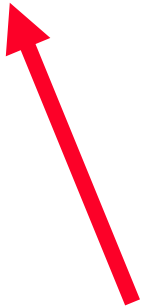
Technology Opportunities & User Needs

Work Content





User Need Documents

- **Mission Need Statement (MNS)**
- **Capstone Requirements Document (CRD)**
- **Operational Requirements Document (ORD)**

Technology Opportunities Activities

- **Science & Technology (S&T) program**
- **Technology Transition Objectives**
- **Technology Transition Mechanisms**

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Requirements Documents Evolution

Milestone A

Milestone B

Very broad non-system specific needs

MNS

ORD

CRD

Established ORDs that fall under CRD

New ORDs that fall under CRD

Family-of-systems System-of-systems capabilities

System specific performance based operational requirements

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Emphasis on Technology

- **Technology Transition Objectives - Component S&T Executives shall:**
  - **Evaluate battlefield deficiencies & establish S&T projects to address deficiencies**
  - **Mature technology to a readiness level to achieve low risk for systems integration**
  - **Advise requirements & acquisition communities of new technology developments**
  - **Conduct independent technology assessments**
- **Technology Transition Mechanisms**
  - **Advanced Technology Demonstrations (ATDs)**
  - **Advanced Concept Technology Demonstrations (ACTDs)**
  - **Experiments**

Science & Technology Program

- Basic Research **-** Scientific study and experimentation directed toward increasing knowledge and understanding in the science fields and discovering phenomena that can be exploited for military purposes.
  - Farsighted, high payoff research on critical enabling technologies.
  - Usually conducted by defense, industry and university labs.
- Applied Research - Translates promising research into solutions for broadly defined military problems.
  - Proof of concept experiments on breadboard hardware and lab models.
  - Non-system specific, usually focuses on subsystems/components (e.g., ballistic, night vision, and medical technology, aerospace flight dynamics and sensors).
- Advanced Technology Development - Demonstrates the performance payoff, increased logistics or interoperability capabilities, or cost reduction potential of militarily relevant technology.
  - Advanced development of components and/or subsystems (e.g., crew systems and personal protection technology, flight vehicle technology integration, advanced tactical computer science and sensor technology).
  - Includes advanced technology demonstrators (ATD) and advanced technology concept demonstrators (ACTD).

Technology Readiness Levels (TRL)

- TRL #1 - Basic principles observed & reported
- TRL #2 - Technology concept and/or application formulated
- TRL #3 - Analytical & experimental critical function and/or characteristic proof of concept
- TRL #4 - Component and/or breadboard validation in laboratory environment.
- TRL #5 - Component and/or breadboard validation in relevant environment
- TRL #6 - System/subsystem model or prototype demonstration in a relevant environment
- TRL #7 - System prototype demonstration in an operational environment
- TRL #8 - Actual system completed and “flight qualified” through test & demonstration
- TRL #9 - Actual system “flight proven” through successful mission operations

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Milestone A

- **May lead to Concept Exploration (CE) or Component Advanced Development (CAD)**
- **MDA approves:**
  - **Initiation of concept studies (if for CE)**
  - **Work on key sub-systems or components (if for CAD)**
  - **Exit criteria**
  - **Acquisition Decision Memorandum(ADM)**
- **Information Requirements:**
  - **Consideration of technology issues & cooperative opportunities with allies**
  - **Results of market research**
  - **Mission Need Statement (MNS)**
  - **Analysis of Multiple Concepts**

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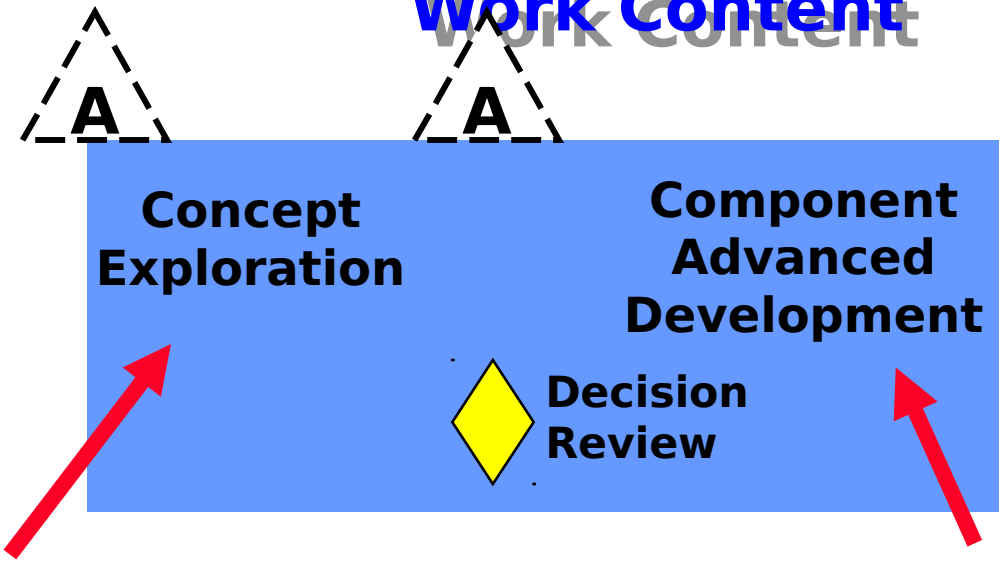
Concept & Technology Development

Work Content



Concept Exploration

Enter: Validated & approved MNS

Major Activity: Paper studies of alternative concepts for meeting a mission

Exit: Specific concept to be pursued and technology exists

Component Advanced Development

Enter: Concept in hand, but system architecture to be developed

Major Activity: Development of subsystems/ components that must be demonstrated before integration into a system concept/tech demonstration of new system concepts

Exit: System architecture and

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Concept Exploration
Work Effort

Purpose: evaluate alternative concepts to satisfy a mission need; select preferred concept

Characterized by:

- **Competitive, parallel, short-term studies**
- **Innovation and competition**
- **Funding for concept studies contracts only**
- **Analyses of Alternatives (AoA)**
- **Work guided by the MNS**

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Hierarchy of Materiel Alternatives

If existing U.S. military systems or other on-hand material cannot be used or modified to meet the requirement, the following hierarchy must be followed (DoDI 5000.2):

1. **Procurement (including modification) of commercially available domestic or international technologies, systems or equipment or additional procurement (including modification) of previously-developed U.S. military systems or equipment, or allied systems or equipment.**
2. **Cooperative development program with one or more allied nations**
3. **New joint component or government agency development program**
4. **New component-unique development program**

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Concept Exploration (CE) Work Effort Key Activities

- Form IPTs to facilitate decision-making
- Conduct Market Research and Analysis
- Develop strategy for evaluating capabilities in MNS
- Assess AoA and select preferred alternative
- Conduct cost performance trade-offs*
- Complete ORD (User/User Rep)*
- Develop overall acquisition & T&E strategy*
- Formulate initial Acquisition Program Baseline*
- Prepare C4I Support Plan (if applicable)*

*may extend into the Concept Advanced Development Work Effort.

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Concept Exploration (CE) Work Effort

Key Activities (Continued)

- Develop draft performance specification*
- Identify potential environmental consequences*
- Prepare Live Fire T&E Waiver (if applicable)*
- Ensure full funding in FYDP prior to MS B*
- Prepare contract package for next work effort/phase (AP, RFP)*
- Meet exit criteria for work effort/phase*
- Propose exit criteria for next work effort/phase*
- Prepare for next milestone*, or conduct Decision Review to authorize Component Advanced Development (CAD)

*May extend into the Concept Advanced Development Work Effort.

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Component Advanced Development

Work Effort

Purpose: To mature key technologies prior to program initiation

Characterized by:

- **Development of a system architecture**
- **Demonstration(s) of technology(ies) in a relevant environment**
- **Risk reduction on components and subsystems**
- **Key Activity: Finish all work efforts for program initiation, to include documents started in CE**

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Summary, Concept & Technology Development Phase

- **May consist of both CE & CAD, or just one of these work efforts:**
  - **CE required if alternative concept is not known**
  - **CAD required if concept is known, but system architecture is not known**
- **Maximum competition and innovation to satisfy requirements**
- **Thorough planning critical to success**

<u>BOTTOM LINE</u>: Is New Development Program Justified ???

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Milestone B

- **May lead to System Integration or System Demonstration***
- **MDA approves:**

  - Acquisition Strategy (AS)

  - Acquisition Program Baseline (APB)

  - Approves LRIP Quantities (Total & IOT&E)

  - Establishes exit criteria, as appropriate

*** Entry at either of these points constitutes formal program initiation**

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Milestone B: Information Requirements

- Acquisition Strategy
- APB
- Application for Frequency Allocation
- Cost Analysis Requirements Description (CARD) (MDAPs only)
- TEMP
- System Threat Assessment (STA)
- ORD
- Independent Cost Estimate (ICE) / Independent Manpower Estimate (N/A MAISs - MDAPs only)
- Economic Analysis (EA) (MAIS only)
- Component Cost Analysis (mandatory for MAIS; as requested by CAE for MDAP)
- LFT&E waiver, if appropriate
- LRIP quantities (N/A for MAIS)
- Clinger-Cohen Act (CCA) compliance (all IT incl NSS)
- CCA certification (MAIS only)
- Independent Technology Assessment
- Affordability Assessment
- NEPA Schedule
- Analysis of Alternatives (AoA)
- Compliance with Strategic Plan (part of AoA, if practical)
- Consideration of Technology Issues
- Program Protection Plan

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System Development & Demonstration Phase

Purpose:

- To develop a system
- Reduce program risk
- Ensure operational supportability
- Ensure design for producibility
- Assure affordability
- Demonstrate system integration, interoperability, and utility

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System Development and Demonstration (SDD) Phase

- **Entry: Two possible entry points to SDD:**
  - **MS B (System Integration)***
  - **MS B (System Demonstration)***
- **Entry point dependent upon technology maturity (including software), validated requirements, and funding**

*** Entry at either of these points constitutes formal program initiation. SDD may be entered directly from Technology Opportunities and user need activities or from Concept Exploration.**

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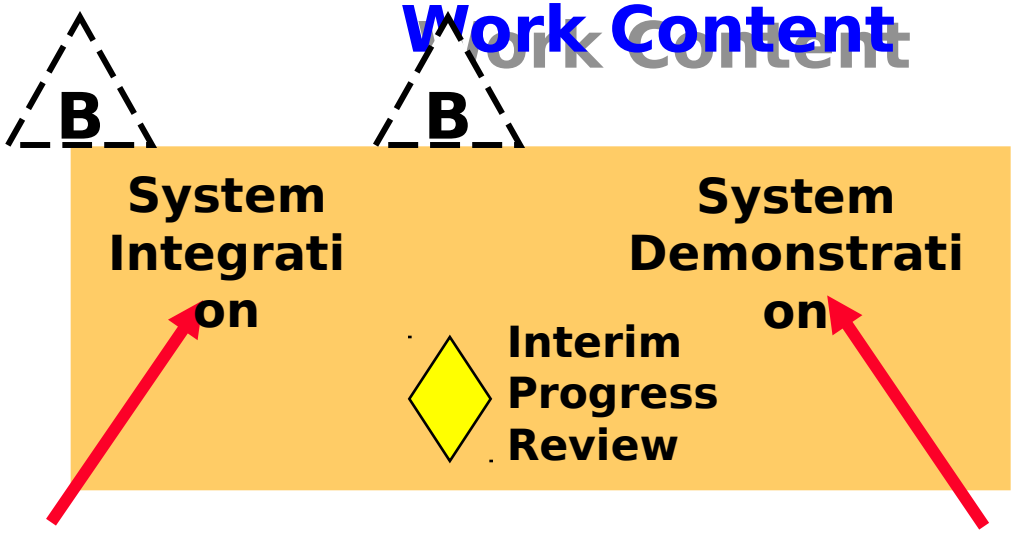
System Development & Demonstration

Work Content



System Integration

Enter: Architecture complete, but components need to be integrated into complete system

Major Activities: System Integration of demonstrated subsystems and components. Reduction of integration risk

Exit: System demonstration in a relevant environment (e.g.

System Demonstration

Enter: Prototypes demonstrated in relevant environment

Major Activities: Complete development. Demonstrate engineering development models. Combined DT/OT.

Exit: System demonstration in

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System Integration

Purpose:

Integrate subsystems and reduce system level risk

Characterized by:

Demonstration of system prototypes in a relevant environment

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System Integration

Key Activities:

- **Demonstrate system in a *relevant* environment, e.g., first flight**
- **Conduct an Early Operational Assessment (EOA), as appropriate**
- **Prepare RFP for System Demonstration or LRIP, as appropriate**
- **Update LRIP Quantities, as appropriate**
- **Prepare/Update: Information requirements**

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System Demonstration*

Purpose/Objective:

Demonstrate the ability of the system to operate in a useful way consistent with the final ORD

Characterized by:

Demonstration of the system in its intended environment

*** May also be entered after a successful Interim Progress Review at the conclusion of System Integration.**

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System Demonstration

Key Activities:

- **Update: Information requirements**
- **Conduct extensive testing: developmental, operational, and survivability/lethality testing, as appropriate**
- **Conduct technical reviews, as appropriate**
- **Demonstrate system in an *operational* environment**
- **Prepare RFP for Low Rate Initial**

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Summary: System Development & Demonstration Phase

- **May consist of either (or both) System Integration and System Demonstration depending on:**
  - ***technology maturity***
  - ***affordability***
- **System demonstrated in intended environment**
- **Manufacturing risk low**

<u>Bottom Line</u>: System ready to begin

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Milestone C

- **Approves entry into Low Rate Initial Production**
- **MDA approves:**
  - **Low Rate Initial Production and entry into the Production and Deployment Phase**
  - **Approves updated Acquisition Strategy and Acquisition Program Baseline**
  - **Establishes Exit Criteria for LRIP portion of Production and Deployment Phase**

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Milestone C: Information Requirements

- Acquisition Strategy
- APB (update, as necessary)
- Cost Analysis Requirements Description (CARD) (MDAPs only)
- TEMP (update, if necessary)
- System Threat Assessment (STA)
- ORD
- Independent Cost Estimate (ICE) (N/A AISs - MDAPs only)
- Program Protection Plan
- C4I Support Plan (C4ISP)
- Clinger-Cohen Act (CCA) compliance (all IT incl NSS)
- CCA certification (MAIS only)
- Independent Technology Assessment
- Affordability Assessment
- NEPA Schedule
- Compliance with Strategic Plan
- Consideration of Technology Issues
- Selected Acquisition Report / Unit Cost Report (MDAP only)

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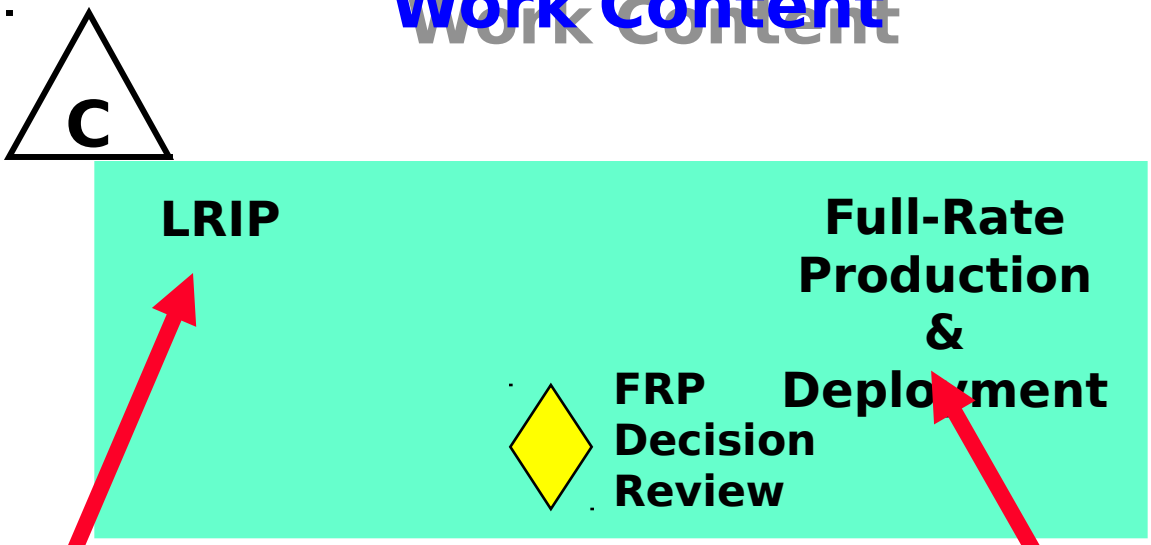
Production & Deployment

Work Content



LRIP

Enter: System matured for production.

Major Activities: Low-rate initial production. IOT&E, LFT&E of production-representative articles. Establish full manufacturing capability.

Exit: System operationally

Full-Rate Production & Deployment

Enter: Beyond LRIP (ACAT I) and LFT&E reports (covered systems) submitted to Congress

Major Activities: Full rate production. Deploy system. Start support.

Exit: Full operational

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Low Rate Initial Production (LRIP)

Key Activities:

- Begin LRIP
- Conduct intensive testing: DT, formal LFT&E & IOT&E
- Logistics support/deployment plans updated and finalized
- Prepare RFP for full rate production, as appropriate
- Update information requirements

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Full Rate Production Decision Review (FRPDR)

Approves:

- Full rate production
- Entry into Full Rate Production and Deployment
- Acquisition Strategy
- Acquisition Program Baseline
- Exit criteria, if appropriate
- Provisions for evaluation for post-deployment performance

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Full Rate Production and Deployment

Purpose:

- **Establish stable, efficient production and support base**
- **Achieve an operational capability that satisfies mission need**
- **Ensure fielded system continues to provide capabilities required to meet mission need**

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Full Rate Production and Deployment

Key Activities:

- Monitor and update the threat
- Produce and deploy the system
- Monitor system performance and readiness of initial system deployments
- Identify and correct shortcomings/deficiencies to improve performance and/or supportability
- Conduct Follow-On Operational Test and Evaluation (FOT&E), as appropriate
- Conduct other testing, as appropriate (e.g., Production Acceptance Testing (PAT))

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Summary: Production & Deployment Phase

- **Consists of both LRIP and Full-Rate Production:**
  - **Not all programs have LRIP**
  - **Formal IOT&E and LFT&E conducted**
- **Monitor systems - correct shortcomings**
- **Continue testing**

<u>Bottom Line</u>: System is produced and deployed; IOC and FOC attained

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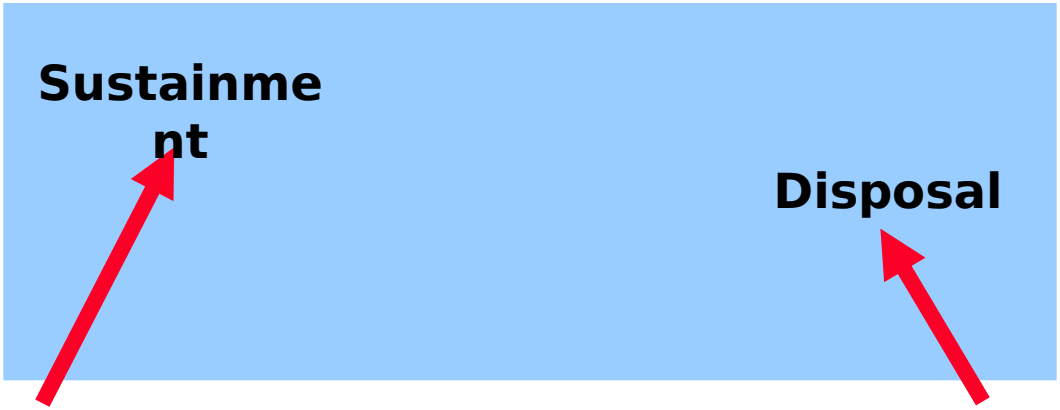
Operations & Support
Work Content



Sustainment

Sustainment starts immediately upon fielding or deployment. Evolutionary sustainment strategy supports evolutionary acquisition strategy.

Major Activities: Maintain readiness and operational capability of deployed systems. Execute operational support plans. Conduct modifications and upgrades to hardware and software. Measure

Disposal

Demilitarization & Disposal

Major Activities:

Demilitarize and dispose of systems IAW legal and regulatory requirements, particularly environmental considerations. Use Defense Reutilization and Marketing Office support as appropriate.

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Operations and Support Phase*

- Emphasis shifts from design/development engineering to supporting the fielded system
- Operational units established & readiness monitored
- Test and evaluation continues
- Operational/support problems identified
- Product Improvement/Service Life Extension Programs energized, if required
- System disposed of at the end of its useful life

* Overlaps Production and Deployment Phase since items are deployed prior to the end of production, and must be sustained in the field

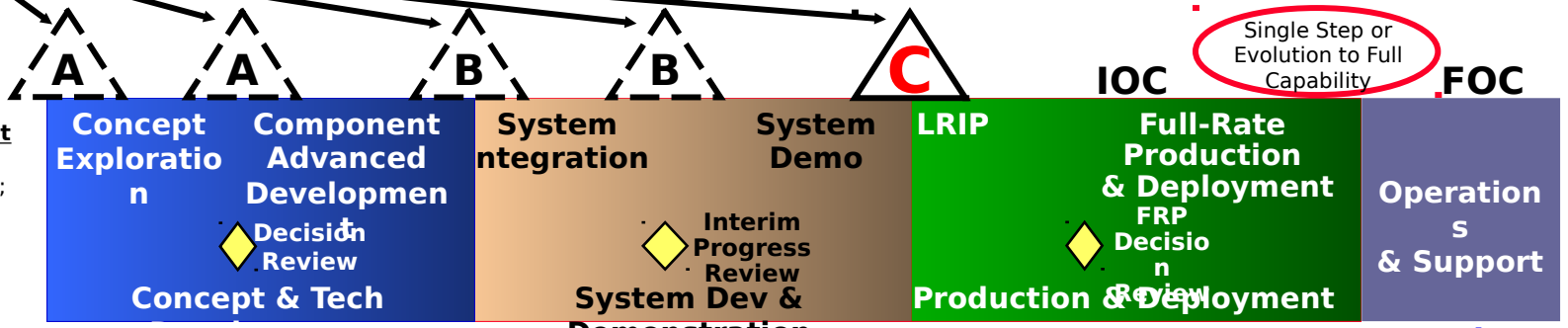
The 5000 Process

Acquisition

Technology Opportunities & User Needs (BA 1 & 2)

Program Outyear Funding

- **Multiple entry points** possible depending on technical/concept maturity
- **Three basic options at each decision point**: Proceed into next phase; do additional work; terminate effort
- **Reviews** are in-phase decision/progress points held as necessary



Concept Exploration

- Paper studies of alternative concepts for meeting a mission need

Component Advanced Development

- Development of subsystems/components that must be demonstrated before integration into a system
- Concept/tech demo of new system concepts

System Integration

- System integration of demonstrated subsystems and components
- Reduction of integration risk

System Demonstration

- Complete development
- Demo engineering development models
- Combined DT/OT

Low-Rate Initial Production

- IOT&E, LFT&E of prod-rep articles
- Create manufacturing capability
- LRIP

Full-Rate Prod & Deployment

- Full rate production
- Deployment of system

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Implementation Challenges

- **Employing new product support strategies**
- **Accepting a militarily useful capability early, based on demonstrated technology, and obtaining objective capability when technology matures**
- **Ensuring that successive evolutionary blocks are adequately funded**
- **Ensuring that “transition funding” is available to speed the transition of successful demonstrations to acquisition**
- **Integrating the test and evaluation community into the new acquisition approach**
- **Ensuring that the workforce (including industry) is adequately trained to successfully implement the new approach**
- **Assuring Congress that the new approach will maintain their visibility into DoD programs and continue their ability to verify DoD’s accountability for program success**

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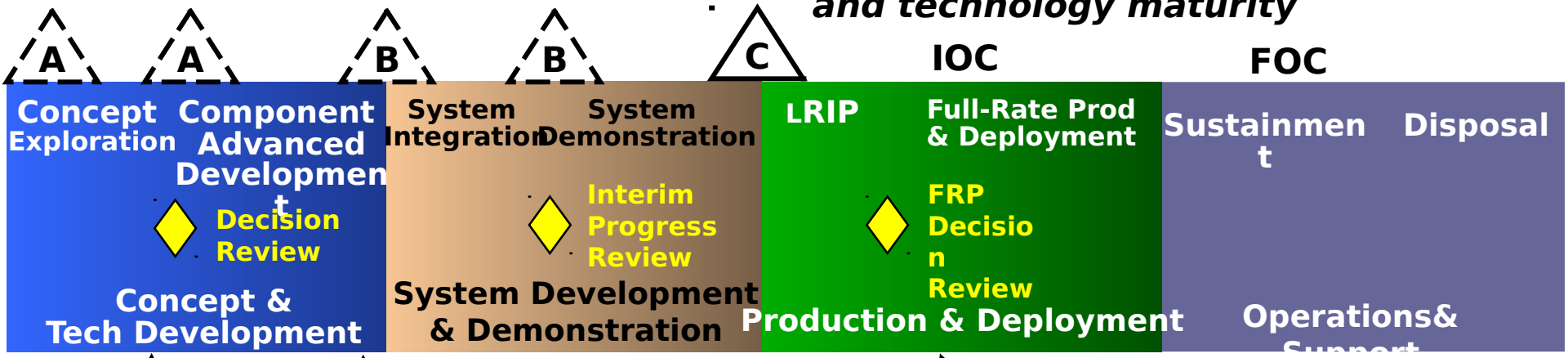
Concept Overview

Programs can enter the process at various points depending on concept and technology maturity



- ***Joint Maritime Command and Control Capability***
- ***Hard and Deeply Buried Target Capability***
- ***Advanced Narrow Band System***

- ***Airborne Laser***
- ***Joint Advanced Strike Technology***
- ***DD-21***

- ***F-16 Upgrade***
- ***Joint Direct Attack Munition***
- ***CVN-77***

- ***Fast Sea Lift Ships***
- ***Global Hawk (transition into acquisition)***
- ***Joint Primary Aircraft Training System***

- ***Non-Developmental Airlift Alternative***
- ***Administrative Use Vehicles***
- ***C-9***

Note: These are <u>notional</u> examples of where these programs might have entered the new process based on <u>historical</u> data of the PM's estimate of technology maturity.